Public Health Assessment for

LCP CHEMICALS INCORPORATED
LINDEN, UNION COUNTY, NEW JERSEY
CERCLIS NO. NJD079303020
JUNE 28, 1999

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
Public Health Service
Agency for Toxic Substances and Disease Registry

THE ATSDR PUBLIC HEALTH ASSESSMENT: A NOTE OF EXPLANATION

This public health assessment was prepared by ATSDR pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) section 104 (i)(6) (42 U.S.C. 9604 (i)(6)), and in accordance with our implementing regulations (42 C.F.R. Part 90). In preparing this document, ATSDR has collected relevant health data, environmental data, and community health concerns from the Environmental Protection Agency (EPA), state and local health and environmental agencies, the community, and potentially responsible parties, where appropriate.

In addition, this document has previously been provided to EPA and the affected states in an initial release, as required by CERCLA section 104 (i)(6)(H), for their information and review. The revised document was released for a 30-day public comment period. Subsequent to the public comment period, ATSDR addressed all public comments and revised or appended the document as appropriate. The public health assessment has now been reissued. This concludes the public health assessment process for this site, unless additional information is obtained by ATSDR which, in the agency's opinion, indicates a need to revise or append the conclusions previously issued.

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PUBLIC HEALTH ASSESSMENT

LCP CHEMICALS INCORPORATED

LINDEN, UNION COUNTY, NEW JERSEY

CERCLIS NO. NJD079303020

Prepared by:

Hazard Site Health Evaluation Program
Consumer and Environmental Health Service
Division of Epidemiology, Environmental and Occupational Health
New Jersey Department of Health and Senior Services
Under Cooperative Agreement with the
Agency for Toxic Substances and Disease Registry

FOREWORD

The Agency for Toxic Substances and Disease Registry, ATSDR, was established by Congress in 1980 under the Comprehensive Environmental Response, Compensation, and Liability Act, also known as the *Superfund* law. This law set up a fund to identify and clean up our country's hazardous waste sites. The Environmental Protection Agency, EPA, and the individual states regulate the investigation and clean up of the sites.

Since 1986, ATSDR has been required by law to conduct a public health assessment at each of the sites on the EPA National Priorities List. The aim of these evaluations is to find out if people are being exposed to hazardous substances and, if so, whether that exposure is harmful and should be stopped or reduced. (The legal definition of a health assessment is included on the inside front cover.) If appropriate, ATSDR also conducts public health assessments when petitioned by concerned individuals. Public health assessments are carried out by environmental and health scientists from ATSDR and from the states with which ATSDR has cooperative agreements. The public health assessment program allows the scientists flexibility in the format or structure of their response to the public health issues at hazardous waste sites. For example, a public health assessment could be one document or it could be a compilation of several health consultations - the structure may vary from site to site. Nevertheless, the public health assessment process is not considered complete until the public health issues at the site are addressed.

Exposure: As the first step in the evaluation, ATSDR scientists review environmental data to see how much contamination is at a site, where it is, and how people might come into contact with it. Generally, ATSDR does not collect its own environmental sampling data but reviews information provided by EPA, other government agencies, businesses, and the public. When there is not enough environmental information available, the report will indicate what further sampling data is needed.

Health Effects: If the review of the environmental data shows that people have or could come into contact with hazardous substances, ATSDR scientists evaluate whether or not these contacts may result in harmful effects. ATSDR recognizes that children, because of their play activities and their growing bodies, may be more vulnerable to these effects. As a policy, unless data are available to suggest otherwise, ATSDR considers children to be more sensitive and vulnerable to hazardous substances. Thus, the health impact to the children is considered first when evaluating the health threat to a community. The health impacts to other high risk groups within the community (such as the elderly, chronically ill, and people engaging in high risk practices) also receive special attention during the evaluation.

ATSDR uses existing scientific information, which can include the results of medical, toxicologic and epidemiologic studies and the data collected in disease registries, to determine the health effects that may result from exposures. The science of environmental health is still developing, and sometimes scientific information on the health effects of certain substances is not available. When this is so, the report will suggest what further public health actions are needed.

Conclusions: The report presents conclusions about the public health threat, if any, posed by a site. When health threats have been determined for high risk groups (such as children, elderly, chronically ill, and people engaging in high risk practices), they will be summarized in the conclusion section of the report. Ways to stop or reduce exposure will then be recommended in the public health action plan.

ATSDR is primarily an advisory agency, so usually these reports identify what actions are appropriate to be undertaken by EPA, other responsible parties, or the research or education divisions of ATSDR. However, if there is an urgent health threat, ATSDR can issue a public health advisory warning people of the danger. ATSDR can also authorize health education or pilot studies of health effects, full-scale epidemiology studies, disease registries, surveillance studies or research on specific hazardous substances.

Interactive Process: The health assessment is an interactive process. ATSDR solicits and evaluates information from numerous city, state and federal agencies, the companies responsible for cleaning up the site, and the community. It then shares its conclusions with them. Agencies are asked to respond to an early version of the report to make sure that the data they have provided is accurate and current. When informed of ATSDR's conclusions and recommendations, sometimes the agencies will begin to act on them before the final release of the report.

Community: ATSDR also needs to learn what people in the area know about the site and what concerns they may have about its impact on their health. Consequently, throughout the evaluation process, ATSDR actively gathers information and comments from the people who live or work near a site, including residents of the area, civic leaders, health professionals and community groups. To ensure that the report responds to the community's health concerns, an early version is also distributed to the public for their comments. All the comments received from the public are responded to in the final version of the report.

Comments: If, after reading this report, you have questions or comments, we encourage you to send them to us.

Letters should be addressed as follows:

Attention: Chief, Program Evaluation, Records, and Information Services Branch, Agency for Toxic Substances and Disease Registry, 1600 Clifton Road (E-56), Atlanta, GA 30333.

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Summary

The Linden Chemicals and Plastics (LCP) Inc. site is located on the Tremley Point Peninsula adjacent to South Wood Avenue and the Arthur Kill, in Linden, Union County, New Jersey. The site is located in a heavy industrial area bordered by South Branch creek to the east, GAF Corporation to the north, and Northville Industries, BP Corporation, and Mobil to the northeast, south and west, respectively.

The LCP site is currently inactive. Chlorine, sodium hydroxide, and hydrochloric acid were produced on-site by use of a mercury cell electrolysis process from 1972 to 1982. As a result of these processes mercury containing sludge was placed into an on-site lagoon which reportedly received up to 20 tons of waste per day. In 1984, under the supervision of the United States Environmental Protection Agency (USEPA), the lagoon was dewatered, closed, and capped with drainage media and topsoil by the LCP Chemical Company. Mercury is the contaminant of concern for the LCP site, and has been detected by the USEPA (1994; maximum concentration listed) in surface soils (110 mg/kg), sediments (1060 mg/kg) and surface water (93 ug/l) of an adjacent creek. On-site monitoring wells associated with the lagoon indicate the presence of heavy metals. However, there are no potable wells (either private or commercial) within the site study area or potentially affected by the site.

There are no completed human exposure pathways associated with the LCP site as a result of the remote, industrial nature of the site's location and the relative absence of residents within the site's influence. There are no community health concerns regarding the LCP site.

The ATSDR and the NJDHSS have evaluated the LCP site to represent no apparent health hazard.

Purpose and Health Issues

This Public Health Assessment investigates and evaluates the public health issues associated with the LCP Chemicals, Inc. site, which was proposed for inclusion to the National Priorities List (NPL) in 1997, and listed on July 27, 1998. NPL or "Superfund" sites represent those sites which are associated with significant public health concern in terms of the nature and magnitude of contamination present, and the potential to adversely impact the health of populations in their vicinity.

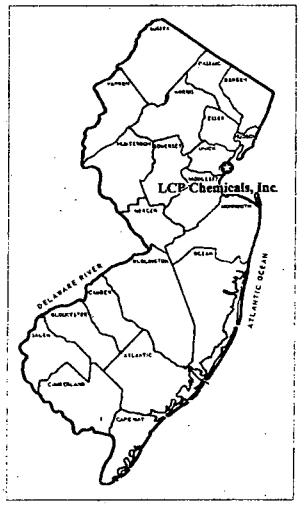
This document evaluates the potential human exposure pathways associated with known contaminated environmental media within or associated with the LCP Chemicals, Inc. (LCP) site and suggests action consistent with protection of the public health. At the LCP site, the known contaminated media include on-site soils, sediments, and surface water of an adjacent creek. The possible impact that site contamination might have on groundwater is also examined.

The New Jersey Department of Health and Senior Services (NJDHSS) will collaborate with environmental agencies such as the U. S. Environmental Protection Agency (USEPA) and the New Jersey Department of Environmental Protection (NJDEP) to contribute a health component to any ongoing or proposed remedial activities.

Background

Site Description And History

The LCP site is located in an industrial area on the Tremley Point Peninsula adjacent to the Arthur Kill, in Linden, Union County, New Jersey (see inset, and Figure 1). The site is bordered by the South Branch Creek to the east, the General Aniline and Film Corporation (GAF) to the north, and Northville Industries, BP Corporation, and Mobil to the northeast, south and west, respectively. The South Branch Creek flows southeast 0.31 miles before discharging into the Arthur Kill which then flows south for 10 miles where it empties into the Raritan Bay. All of the surface water bodies located along the site's surface water are tidally influenced.



74°12'30" N, 40°36'19"W

E. I. Dupont, Inc. owned the land which, according to aerial photographs, was coastal marshland prior to 1942. GAF purchased the site in 1942 and began producing chlorine in 1961 by utilizing a mercury cell electrolysis process. LCP purchased the 26-acre facility in 1972 and continued using the same chlorine processing method with a few minor modifications to produce chlorine, sodium hydroxide, hydrochloric acid (HCL), and anhydrous HCL. The production process involved the electrolysis of a sodium chloride (brine) solution in the presence of metallic mercury. The residual mercury-sodium solution was then used to hydrolyze water forming

sodium hydroxide and hydrogen gas. The metallic mercury was partially recovered and recycled in a brine purification process. The remaining mercury tainted sludge was placed into the brine sludge lagoon, which received up to twenty tons per day of both brine sludge and wastewater treatment sludge. The total volume of sludge in the brine sludge lagoon is estimated to be 30,900 cubic yards. The lagoon supernatant was collected in a sump located in the southeastern corner of the lagoon, and piped to the site wastewater treatment system for treatment prior to being discharged to the South Branch Creek. The generation of brine ceased at the site in March 1982.

Overflows from the brine sludge lagoon to the South Branch Creek were observed by the New Jersey Department of Environmental Protection (NJDEP) on October 30, 1972 and February 7, 1974. In June 1975, a brine recycle pump failed and a breach in the brine sludge lagoon occurred. As a result, an undetermined quantity of brine entered the South Branch Creek for an estimated period of nine hours. The location of the release was believed to be near the southeastern corner of the lagoon. The brine sludge lagoon was the source of numerous spills and leaks to the South Branch Creek throughout the 1970's.

As a result of releases to the environment, an Administrative Consent Order was issued by NJDEP in 1981 which required the closure of the brine sludge lagoon and implementation of air, soil and groundwater monitoring. Closure plans for the lagoons (brine sludge and Chem-fix lagoons) were approved on November 7, 1983. During the closure of the lagoons, LCP closed their production facilities in order to end employee exposure to mercury. Closure of the brine sludge lagoon included removing excess water, compacting dried sludge, and capping with a two foot layer of clay. The closure of the lagoons was completed in 1984. LCP was also required to implement a monitoring program to evaluate the release of mercury and other metals to the environment.

LCP installed monitoring wells to determine if there was any impact from the brine sludge lagoon on area groundwater. These wells were monitored quarterly for total organic carbon (TOC), phenols, dissolved metals, total organic halogens (TOX), and selected inorganic constituents. Several quarterly reports from 1982 - 1987 indicate that the concentrations of lead, chromium, cadmium, mercury, silver, and selenium exceeded the New Jersey Pollution Discharge Elimination System permitted levels.

Groundwater has not been identified as a source of drinking water within four miles of the site. The residential population in the site's vicinity relies primarily on surface water as a source for potable water. The water is drawn from surface water intakes that are not located along the site's surface water pathway. Groundwater monitoring data associated with the brine sludge lagoon has been generated and reported to NJDEP since the unit was closed in 1984. There has been no indication of an ongoing release of brine sludge to groundwater from this unit, although barium was detected in excess of the 1 ppm NJDEP Action Level. Manganese, iron, sulfate, and total dissolved solids were detected in upgradient and downgradient monitoring wells at concentrations exceeding the permit levels, but high ambient levels would not be

unusual in local groundwater due to the geochemistry of the Brunswick Formation (sulfate mineralization) and the brackish nature of local groundwater due to tidal influence. Mercury was detected at concentrations exceeding the drinking water standard at one point in 1982, but the data quality is less than optimal.

A February 1982 report entitled, "Waste Lagoon Groundwater Monitoring" (WLGM) indicates that soil samples were collected at six inch intervals during the installation of the site's monitoring wells and were analyzed by LCP for mercury. Analytical results of these samples indicated mercury concentrations ranging from 36 ppm to 772 ppm in the zero to two foot interval with mercury concentrations generally decreasing with depth; mercury concentrations detected at depths of 40-47 feet ranged from 0.60 ppm to 4.6 ppm. Surface soil samples collected from the perimeter of the brine sludge lagoon indicated mercury levels ranging from 27.5 ppm to 1580 ppm. In addition, analytical results of a sediment sample collected from the South Branch Creek bed, downstream of the brine sludge lagoon, indicated the presence of mercury at a level of 46.4 ppm. The data quality associated with this sampling is unknown.

In June 1984, LCP submitted a facility closure plan to the NJDEP. This closure was completed in 1985 and included the complete closure of all production areas. After the 1985 facility closure, the site continued to operate as a storage and transfer station for hydrochloric acid, sodium hydroxide, potassium hydroxide, and methylene chloride that was produced at other LCP facilities. Dismantling activities have been ongoing since the facility's closure.

On December 14, 1994, an EPA contractor conducted an on-site inspection of the LCP site. During this inspection it was noted that all site storage/transfer activities had ceased and that all of the mercury cells and other production equipment had been removed from the site.

Demographics and Land Use

The area surrounding the LCP site is strictly commercial and industrial in character. There are no occupied structures within 0.25 miles, and the closest residence is approximately 0.4 miles from the site. Population demographics based upon the 1990 census have been prepared by the ATSDR using area-proportion spatial analysis, and are presented in Figure 2 (see Appendix). Seven hundred sixty four persons live in 303 housing units within a one mile radius of the LCP site. The size of the population within one-half mile of the site is 38.

There are no residences, schools, day care centers or terrestrial sensitive environments identified within 200 feet of the site property.

Previous ATSDR Activity

The ATSDR and the NJDHSS conducted a site visit and generated a Site Visit Report in June 1996. The report noted numerous physical hazards at the LCP site and the site's relative inaccessibility. There have been no other activities at the LCP site since 1996.

Site Visit

Several visits have been made to the LCP site in recent years by ATSDR/NJDHSS. The most recent visit to the LCP Site was conducted on April 30, 1998, by Steve Miller and Jeff Winegar of the New Jersey Department of Health and Senior Services (NJDHSS), accompanied by a representative of the USEPA and the local health department. A representative of the owners of the LCP site, a former employee in the business operations, participated in the site visit.

The following observations were made during this site visit:

- LCP is a 24-acre former industrial site which is located in a large industrial park. The LCP site includes several dilapidated structures that had contained large chemical storage tanks, a compressor building, a brine building and silos.

- There are two large lagoons, a large one and a smaller one, placed roughly parallel and adjacent to the South Branch Creek, which empties into the Arthur Kill. The larger lagoon (400'x300'x200'x100') was used to collect brine sludge in the electrolysis process, and the smaller lagoon was used to attempt to treat the mercury contaminated waste in the main lagoon. They have both been backfilled and seeded.

- There is a fence which largely prevents access to the LCP site and its hazards. Some of the buildings and structures are intact. One of the buildings is rented by a tank washing company, which employs several workers. Most of the other buildings are in disrepair and might comprise a physical hazard to those on-site. The remainder of the site is vacant.

- Except for the tank washing company and a Northville Industries oil tank farm, there are no occupied structures present around the LCP site for at least one-quarter mile. The Northville site is adjacent to the brine sludge lagoon, on the south end of the LCP Site.

- In a previous site visit there was some evidence of vandalism, but no evidence of trespassing or vandalism was observed during the present site visit.

Discussion

On-Site Contamination

In January, 1995, an EPA pre-remedial contractor collected three surface soil samples (0-6 inches depth), ten surface water samples, and eight sediment samples.

Surface Soils

The highest level of mercury noted in the surface soils was 110 mg/kg. Analysis of the surface soil samples collected downgradient of the brine sludge lagoon indicated the presence of mercury (98.9 to 110 mg/kg), lead (304 mg/kg), and zinc (833 mg/kg) at greater than three times the level detected in the background sample.

Sediments

The average concentration of mercury in the sediments of the South Branch Creek was 500 mg/kg. The highest concentration was 1060 mg/kg . The sediments were probably collected near the water's edge.

Surface Water

Mercury was detected in the surface water at 93 μg/liter in the South Branch Creek. Analysis of the surface water/sediment samples showed evidence of mercury from the site to the South Branch Creek. In addition, the analytical results of the surface water and sediment samples identified a zone of actual contamination which contains 0.45 miles of wetlands frontage and a state designated area for the maintenance and protection of aquatic life.

Groundwater

Monitoring wells installed by the New Jersey Department of Environmental Protection proximal to the on-site sludge lagoon indicate the presence of heavy metals (lead and cadmium) although mercury infiltration of groundwater is apparently minimal (below 2 ppb).

Air

The USEPA conducted on-site monitoring for mercury vapor during the 1995 Site Inspection (SI). No readings above background were detected on the mercury vapor analyzer. There are no other data or information to indicate that an air release of site related contaminants has occurred at the LCP site.

Off-Site Contamination

With the exception of sediment and surface water contamination described above, there is no evidence of off-site migration of site-related contaminants associated with any environmental media.

Pathways Analysis

Based upon current site conditions and data /information available to the ATSDR and the NJDHSS, no completed human exposure pathways associated with the LCP site were identified.

Inorganic mercury is present in on-site soils above ATSDR's Environmental Media Evaluation Guide for children (100 mg/kg). On-site soils are not accessible to either adults or to children, precluding ingestion of contaminated soils at levels of public health significance.

Similarly, sediments of the South Branch Creek are inaccessible, precluding contact with site-related contaminants.

Surface waters and sediments of the South Branch Creek and its terminus, the Arthur Kill, may have received site related contamination (primarily inorganic mercury). These geographic features are heavily contaminated by a variety of compounds from many different sources. However, there is little likelihood of direct contact with these features at a frequency which would yield an exposure dose of public health significance.

Biota of the South Branch Creek and the Arthur Kill have likely been exposed to a wide variety of contaminants some of which, particularly mercury, may have the ability to bioaccumulate. The NJDEP indicates that there is mercury in edible fish species; however, there are no data to indicate the origin of the mercury. Fishing advisories/restrictions are currently promulgated by the New Jersey Department of Environmental Protection for the South Branch Creek and the Arthur Kill (as part of the Newark Bay Complex).

Although site-related groundwater contamination is likely, the aquifer in the vicinity of the site is impacted by a variety of sources and compounds. As stated above, there are no data and information available to the ATSDR and the NJDHSS indicating the existence of potable domestic or municipal wells within the actual or projected influence of the site.

Public Health Implications

Toxicological Evaluation

There were no completed exposure pathways associated with the LCP site which merit toxicological evaluation.

Health Outcome Data Evaluation

Health outcome data were not reviewed for the LCP Site. There exists no identifiable population which is potentially exposed to site related contamination.

Community Health Concerns

The NJDHSS contacted the Linden Board of Health, the USEPA, and the New Jersey Department of Environmental Protection to gather information on community health concerns. No reports of community health concerns related to the LCP Site were determined.

Conclusions

Hazard Category: Linden Chemical and Plastics Site

Based on the information reviewed, the ATSDR and NJDHSS have concluded that the Linden Chemicals and Plastics (LCP) site currently poses no apparent public health hazard. This evaluation is the result of an absence of any completed human exposure pathway associated with the site.

Fishing advisories/restrictions are currently promulgated by the New Jersey Department of Environmental Protection for the South Branch Creek and the Arthur Kill (as part of the Newark Bay Complex). Site data and information indicate that the LCP site may have contributed to the overall contamination problem of these surface water features.

Although the ATSDR and the NJDHSS have not identified completed human exposure pathways associated with the LCP site, on-site soil contamination is present at levels of potential public health concern.

Recommendations

Cease/Reduce Exposure Recommendations

Based upon available data and information, there are no identifiable exposures occuring that are associated with the LCP site.

The NJDHSS and the ATSDR recommend that the fish consumption advisories and blue crab harvest prohibition presently pertaining to the Arthur Kill remain in place.

Site Characterization Recommendations

As part of an overall remedial investigation of the LCP site, the acquisition of additional groundwater data is indicated.

Public Health Action Plan (PHAP)

The Public Health Action Plan (PHAP) for the LCP site contains a description of the actions to be taken by ATSDR and/or NJDHSS at or in the vicinity of the site subsequent to the completion of this Public Health Assessment (PHA). The purpose of the PHAP is to ensure that this PHA not only identifies public health hazards, but provides a plan of action designed to mitigate and prevent adverse human health effects resulting from exposure to hazardous substances in the environment. The ATSDR and the NJDHSS are committed to follow up on this plan to ensure that it is implemented. The public health actions to be implemented by the ATSDR and the NJDHSS are as follows:

Public Health Actions Undertaken by ATSDR/NJDHSS:

1) Existing environmental data have been evaluated within the context of human exposure pathways and relevant public health issues.

Public Health Actions Planned by ATSDR/NJDHSS:

1) The ATSDR and/or the NJDHSS will review additional site data generated by future remedial investigations if critical, new information becomes available.

2) The NJDHSS will prepare a site specific public health fact sheet for the LCP Site upon request by local health agencies.

3) ATSDR will provide an annual follow up to this PHAP, outlining the actions completed and those in progress. This report will be placed in repositories that contain copies of this PHA, and will be provided to persons who request it.

ATSDR Child Health Initiative

ATSDR's Child Health Initiative recognizes that the unique vulnerabilities of infants and children demand special emphasis in communities faced with contamination in their environment. Children are at greater risk than adults from certain kinds of exposures to hazardous substances emitted from waste sites. They are more likely exposed because they play outdoors and they often bring food into contaminated areas. They are shorter than adults, which means they breathe dust, soil, and heavy vapors closer to the ground. Children are also smaller, resulting in higher doses of chemical exposure per body weight. The developing body systems of

the growing child can sustain permanent damage if toxic exposures occur during critical growth stages. Most importantly, children depend completely on adults for risk identification and management decisions, housing decisions, and access to medical care.

Mercury is a neurotoxin to which young children and fetuses are especially sensitive. However, as there are no likely exposures to any population, children are not presently considered to be at risk from this site. If site conditions change that result in potential exposures to children or pregnant women, the NJDHSS will re-examine childhood health issues.

Public Comment

This document was released for Public Comment during the period April 20, 1999 to May 20, 1999. No comments were received by the NJDHSS.

CERTIFICATION

The Public Health Assessment for the LCP Chemical site was prepared by the New Jersey Department of Health and Senior Services under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). It is in accordance with approved methodology and procedures existing at the time the health assessment was begun.

Gregory V. Ulirsch
Technical Project Officer
Superfund Site Assessment Branch (SSAB)
Division of Health Assessment and Consultation (DHAC)
ATSDR

The Division of Health Assessment and Consultation, ATSDR, has reviewed this Public Health Assessment, and concurs with its findings.

Richard Gillig
Acting Chief, SSAB, DHAC, ATSDR

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Documents Reviewed

1. U.S. Environmental Protection Agency (USEPA) Region II, Site Inspection Report, LCP Chemical, Linden, Union County, New Jersey, June 16, 1995 updated July 24, 1995.

2. U.S. Environmental Protection Agency (USEPA) Region II, Final Hazard Ranking System Evaluation, LCP Chemical, Linden, Union County, New Jersey, February 1997.

3 U.S. Environmental Protection Agency (USEPA), National Priorities List (NPL) Narrative at Listing, LCP Chemical, Linden, New Jersey, September 25 1997.

4. ATSDR/NJDHSS, Site Visit Report, LCP Chemical, Linden, New Jersey, June 24, 1996.

5. U.S. Environmental Protection Agency (USEPA) Region II, Removal Site Evaluation for LCP Chemical, Linden, Union County, New Jersey, August 12, 1996.

6. Agency For Toxic Substances and Disease Registry. Health Assessment Guidance Manual. Chelsea, Michigan: Lewis Publishers, 1992.

7. U.S. Environmental Protection Agency. Exposure Factors Handbook. Washington, D.C.: Office of Health and Environmental Assessment. March 1989.

8. Agency for Toxic Substances and Disease Registry. Toxicological Profile for Mercury (Update). Atlanta: ATSDR, May 1994.

9. New Jersey Department of Environmental Protection, Division of Science and Research. Personal communication, March 10, 1999.

Appendices

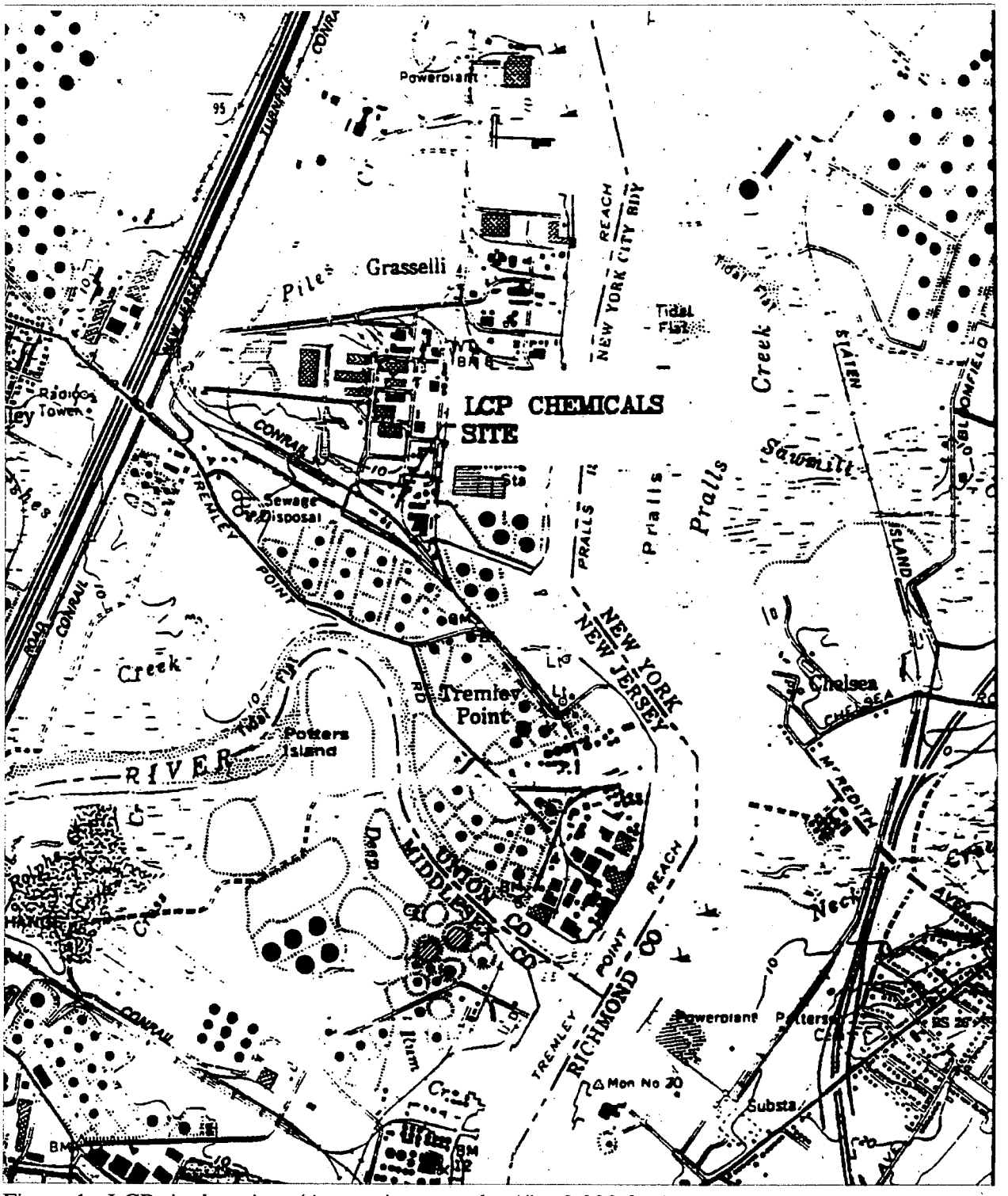

Figure 1 - LCP site location. (Approximate scale: 1" = 2,000 feet)

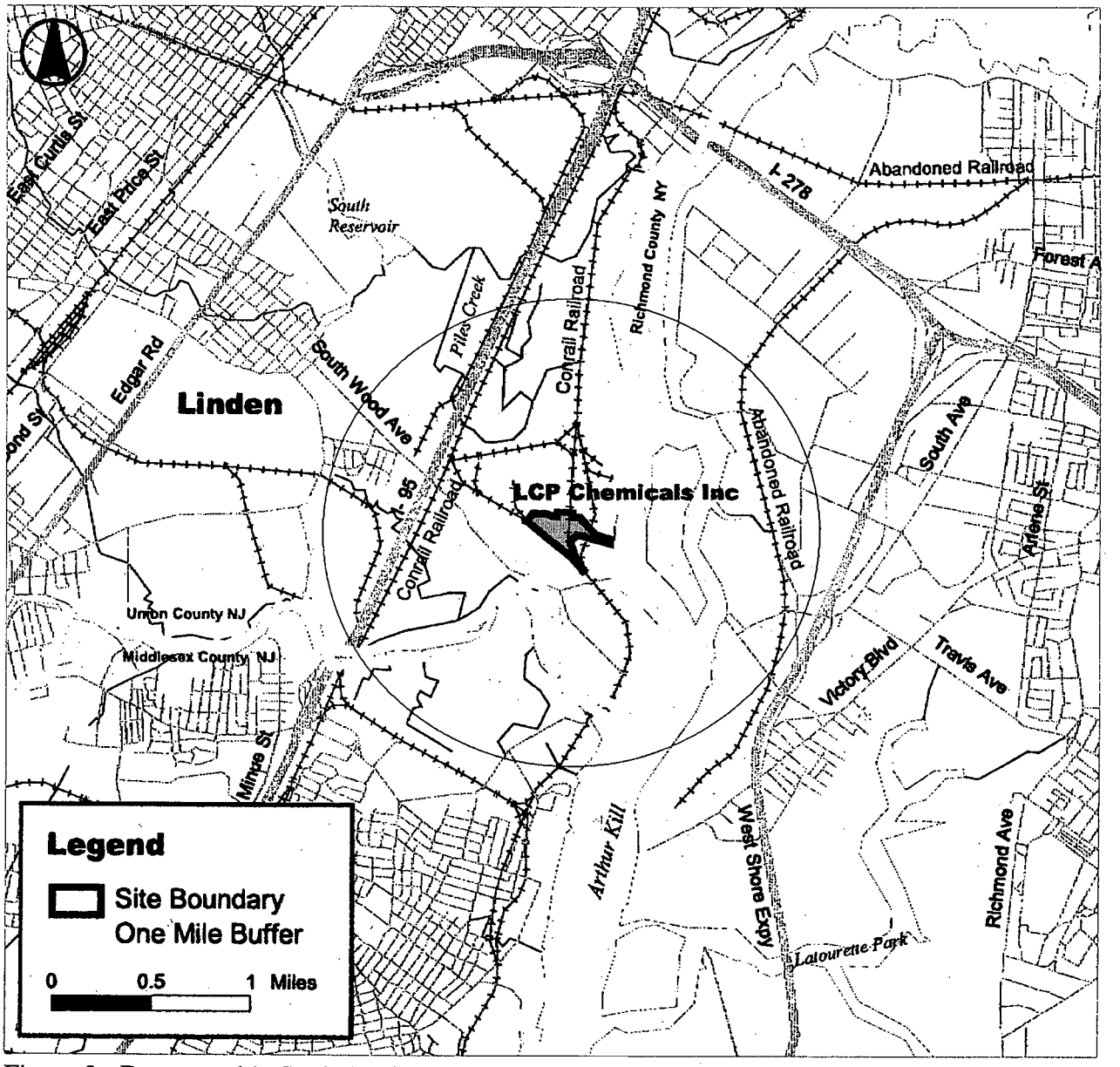

Figure 2 - Demographic Statistics for the LCP site. Source; 1990 census.

Total Population	802		
White	724	Children aged 6 and under	63
Black	27	Adults aged 65 and older	105
Asian	9	Females aged 15 - 44	165
Other	4	Total Housing Units	303
Hispanic	38		